UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,633	09/22/2003	Christopher Cave	I-2-0390.1US	1103

24374 7590 03/19/2009

VOLPE AND KOENIG, P.C.
DEPT. ICC
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
LAM, DUNG LE	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
03/19/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/667,633	CAVE ET AL.	
	Examiner	Art Unit	
	DUNG LAM	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 december 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *89-120* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *89-120* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ___.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/30/2008 has been entered.

Claim Objections

Claims 95 and 103 objected to because of the following informalities:

Claim 95 recites, "…the method of claim 95…" This means claim 95 is dependent on claim 95 which is not possible. Applicant is clarify which claim is claim 95 dependent on in the next response.

Claim 103 recites, "A network station comprising: **the** base station configured to detect an omnidirectional sounding pulse …." The base station was not previously recited. Previous limitation of the claim only mentioned a network station. Applicant should either change "the base station" to --a base station-- or –the network station—for consistency

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims **89-94, 96-101, 103-116 and 118-119** rejected under 35 U.S.C. 103(a) as being unpatentable Jollota et al. (US 2004/0142691, hereinafter **Jollota**) in view of **Crichton** (US Patent No. 6330459).

Regarding **claim 103**, **Jollota** teaches a network station comprising:

the base station configured to detect an omnidirectional sounding pulse from a wireless transmit/receive unit (WTRU) that is conducting the wireless communication via another network station (BSU detects a Bluetooth inquiry [0024, 0029]);

the network station configured to communicate information related to the detected omnidirectional sounding pulse to an interface (BSU sends received data structure to PSC [0024]);

the network station configured to receive from the interface a notification to continue the wireless communication with the WTRU as part of a handover (PSC sends connection command to optimal BSU [0025-0026, 0029]); and

- the base station configured to begin a wireless communication with the WTRU in response to a notification to establish a wireless communication with the WTRU ([0025-0026]).

However, **Jollota** does not explicitly teach the network station configured to receive from the interface a relative location of the WTRU and selectively operating the

beamforming antenna to direct a common channel toward the relative location of the WTRU.

In an analogous art, **Crichton** selectively operating the beamforming antenna (Fig. 3 and 4, Abstract) and the base station configured to receive from the interface a relative location of the WTRU and selectively operating the beamforming antenna to direct a common channel toward the relative location of the WTRU (BS receives from interface "OMC" to respond with narrow beam toward the direction of the communicating unit, C5 L55- C6 L5, C6 L25-55, C8 L40-60). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine Jollota's teaching of establishing a handover communication with Crichton's teaching of using a beamforming antenna to direct the common channel toward the location of the MS to minimize interference (Crichton C6 L9).

Regarding claims **89, 96, 108 and 114**, they are methods and apparatus claims that have the same corresponding limitations as claim 103 and thus are rejected for the same reasons as claim 103.

Regarding **claim 90, 97, 104, 109, and 116**, **Jollota and Crichton** teach the method of claim 89 wherein the communicated information related to the detected omnidirectional sounding pulse includes information to facilitate determining the relative location of the WTRU ([0006]).

Regarding **claim 91, 98, 105, 110, 113 and 115**, **Jollota and Crichton** teach the method of claim 90 wherein the communicated information related to the detected omnidirectional sounding pulse includes signal strength information, where the signal

strength information indicates that the received signal strength crossed a threshold ([0024, 0029], RSSI received MU request).

Regarding **claim 92, 99, 106 and 111**, **Jollota and Crichton** teach the method of claim 89 wherein the communicated information related to the detected omnidirectional sounding pulse includes geolocation information (C5 L55- C6 L5, C6 L25-55, C8 L40-60).

Regarding **claim 93, 100, 107 and 112**, **Jollota and Crichton** teach the method of claim 89 further comprising transmitting a cyclic sweeping beacon channel (C5 L55- C6 L5, C6 L25-55, C8 L40-60).

Regarding **claim 94, 101 and 119**, **Jollota and Crichton** teach the method of claim 89 wherein detecting the omnidirectional sounding pulse includes detecting at least one of a plurality of omnidirectional sounding pulses ([24-26]).

Regarding **claim 118**, **Jollota and Crichton** teach the WTRU of claim 82 except wherein the antenna is an isotropic antenna configured to transmit equally in all directions. However, the examiner takes official notice that the use of isotropic antenna is well known in the art. Therefore it would have been obvious for one of ordinary skill in the art at the time of the invention to combine Jollota and Crichton's teaching with the isotropic antenna to communicate signals from all directions.

Claim **117** rejected under 35 U.S.C. 103(a) as being unpatentable by **Jollota and Crichton** in view of **Velazquez et al. (US Patent No. 6,593,880).**

Regarding **claim 117**, **Jollota and Crichton** teach the WTRU of claim 82 but is silent that the mobile unit is equipped with a global positioning system (GPS) and the transmitting of an omnidirectional sounding pulse includes transmitting of mobile unit location information associated with the sounding pulse transmitted by the mobile unit and/or includes transmitting of identification information associated with the sounding pulse transmitted the mobile unit. In an analogous art, **Velazquez** teaches that the UE has a GPS (C8 L20-37). Therefore it would have been obvious for one of ordinary skill in the art at the time of the invention for to add Valazquez's GPS to Watanabe and Jollota's handoff method to speed up the location positioning of the handset and thus to promote a faster handoff process.

Claims 95, 102 and 120 are rejected under 35 U.S.C. 103(a) as being unpatentable over J**ollota and Crichton** in view of **Anderson et al.** (US Patent No. 5396541).

Regarding **claim 95, 102 and 120**, **Jollota and Crichton** teach the method of claim 62 wherein the plurality of omnidirectional sounding pulses includes a first pulse having a first signal strength and a second pulse having a second signal strength, where the second signal strength is greater than the first signal strength. However, Anderson teaches a method of adjusting the power to a higher or lower level if the mobile is far or close from the base stations respectively (Col. 9, lines 50-15). In addition, it is also well known in the field of communications that after a failed transmission, one of ordinary skill in the art may use back-off algorithm to resend the

signal in a predefined period of time. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine **Jollota and Crichton**'s handoff method and **Anderson**'s teaching of a increasing the signal power (if the mobile is far away from the base station) at a predefined period to increase the chance of a successful handoff.

Response to Arguments

Applicant's arguments with respect to claims 89-120 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DUNG LAM whose telephone number is (571) 272-6497. The examiner can normally be reached on M - F 9 - 5:30 pm, Every Other Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is (571) 272-6497.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit 2617